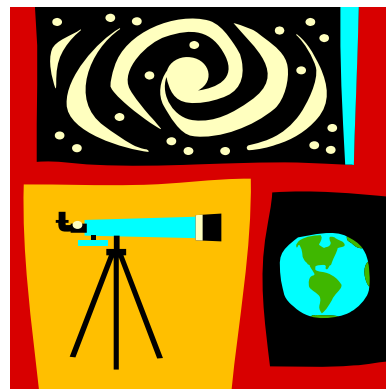


Physics

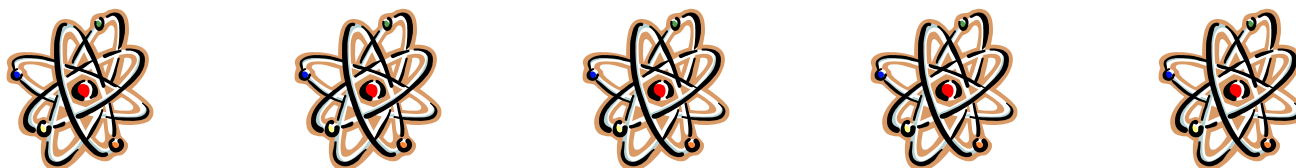
Course Description & Policies

2008-2009



Teacher: Ms. Loren Cerami
Office: CC2 (Science Dept. Office)
Email: lcerami@newtoncountryday.org

Course Textbook: Physics, Serway & Faughn; Holt, Rhinehart & Winston, 2002



Course Summary:

This year, we will learn scientific principles that explain the physical world in which we live. In addition, we will focus on the development of analytical reasoning, scientific inquiry and problem-solving skills. Laboratory experiments, engaging discussions and other group activities will all be important parts of our exploration of physics. Math and physics are very connected, and preparation in basic math and algebra is essential for this course.

We will be incorporating more inquiry-based learning into Physics this year. This discovery approach allows students to learn physics concepts through observation, experimentation, presentation and discussion with their classmates. Through this process, students construct and validate conceptual models of the physical world. Students are then prepared to apply these models to a variety of situations to solidify their understanding of the physics concepts.

Course Topics:

Experimental Design & Measurement, Motion in One Dimension, Two-Dimensional Motion and Vectors, Forces, Laws of Motion, Work & Energy, Momentum & Collisions, Vibrations & Waves, Optics

Course Website:

The course website will contain course information including syllabi, copies of handouts, extra practice problems and links to outside physics resources, such as simulations and videos that you can use to support what we are learning in class.

Go to <http://ncdsnet.newtoncountryday.org/science.html> and click link for Physics

Course Assessment:

Tests & Quizzes:

We will have tests every 1-2 units and small quizzes once every week or two weeks. You will be given at least 1 day notice for quizzes and 4 days notice for tests. There will be a cumulative semester exam at the end of the first semester (covering first semester topics) and a cumulative final exam at the end of the second semester (covering topics from the entire year).

Laboratory Work:

Inquiry-based laboratory activities will constitute a large part of this course. Typically, these activities will include observation about a specific physical situation, experimentation to investigate some aspect(s) of the situation, analysis of collected data, presentation of results through the use of whiteboards, and discussion of results. You will work in small groups for experimentation, analysis and presentation of their results to the class. After participating in a class discussion about similarities and differences of all groups' results, you will write an individual laboratory report.

In addition to receiving grades on your lab reports, you will be assessed on your engagement and participation in all aspects of the laboratory process (observation, group experimentation and presentation of their results, and class discussion). You may also be asked to complete smaller reflection assignments as your group completes the lab activity. For everyone's safety, it is imperative that you understand and follow lab guidelines. There will be a lab safety statement for you to sign.

Homework:

Homework will consist of textbook chapter problems, worksheets and projects. You will be assigned daily homework related to the current topic we are studying. Often this type of homework will be viewed at the beginning of class for an effort check. A strong effort will earn the full 2 points. Partial effort will earn 1 point and very little or no will receive no points. Periodically, daily homework will be collected for a more thorough grading. Homework is a very important part of your learning in this course. Late homework will result in 0 points for daily checks and a **10% grade reduction** per day late for all other assignments.

There will be at least one project throughout the course relating to "real world" science. The project will involve some independent research on a suggested topic and will give us perspective on the importance of physics in our everyday lives.

Grading will be based on a point system. The approximate breakdown of points will be:

Tests & Quizzes (40-45%), Laboratory Activities (25-30%), Homework (20-25%), Participation (10%)

Course Grade:

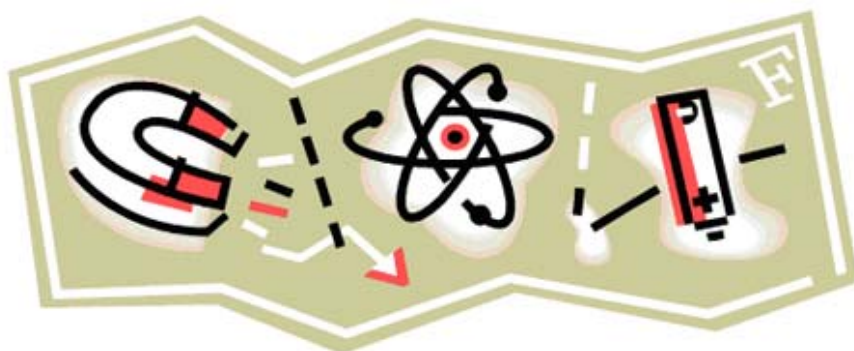
| | Juniors | | Seniors |
|--------------------------|---------|---------------------------|---------|
| 1 st Semester | 37.5% | 1 st Trimester | 1/3 |
| 2 nd Semester | 37.5% | 2 nd Trimester | 1/3 |
| Final Exam | 25% | 3 rd Trimester | 1/3 |

Attendance & Tardiness:

Attendance is **essential** for satisfactory performance in this course. Attendance will be taken at the start of each class and tardiness will be noted. If you are tardy to class for more than five minutes, you will not receive full credit on the daily homework check. Repeated tardiness will result in serious consequences.

Make-up Work:

In the case of foreseen absences, please notify me as soon as possible to get homework assignments in advance. For unforeseen short-term absences, it is expected that you make up missed work as soon as possible after your return to school. Typically you will have an additional day to make up work for every day that you miss school. If you miss a test, you should see me as soon as you can upon your return to schedule a period for your make-up test. Any assignment missed must be made up within one week after your return to school or you will receive no credit. Longer-term illness or special circumstances will be dealt with individually. ****It is the STUDENT'S responsibility to reschedule missed work.****



Organization & Supplies:

Each student will be given a 1 ½ -inch class binder with dividers for organization of work in this course. Please organize your binder by unit with class notes, homework, laboratory work and tests & quizzes separated within that section of the binder. You need to bring your binder to class each day, along with plenty of paper, writing utensils, a calculator and the course textbook. We will use computers frequently for laboratory activities in this class so you should bring your computer to each class meeting.

Extra Help:

You are always welcome to see me for extra help. If you are having difficulties with the material, please sign up (on my schedule on the Science Dept. Office door) to meet with me outside of class. Often a few minutes spent talking to me about your confusion will save hours of frustration on your own. Physics concepts are best explained with diagrams and props and therefore it is best to speak with me in person when you have questions. Your classmates are another resource you should use when you are confused.

General Expectations:

Physics is a complex subject and requires hard work and perseverance to understand the concepts. I expect that you will put in the effort both in and outside of class time and bring a positive attitude and approach to learning the material. You should devote thought to your homework assignments and give yourself enough time to complete larger assignments, such as lab reports and projects, and to prepare for tests. With the incorporation of more inquiry-based and hands-on activities this year, the course will require significant student engagement. It is imperative that all students participate actively in all aspects of the inquiry process, from observation to experimentation to presentation and class discussion.